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Will You Taste These Six Samples of Hard Candy?

This box of eating samples incorporating six popular flavors will be sent to any hard candy manufacturer—

Without Cost or Obligation

THE real test of flavor quality is in the answer to the question:—

HOW DOES IT "EAT"
in the finished goods?

We have, therefore, made up these samples at our factory in regular batch size quantities, using our Natural Type Hard Candy Concentrates.

After tasting the samples in this box which we will send you on request, you will have a new appreciation of the part which flavor can play in the success of a piece of candy when the RIGHT flavor is used in the right way. We used one ounce to each 100 pound batch in making up these samples. We maintain these flavors are incomparable from standpoint of quality and price.

This opinion is also shared by many leading hard candy manufacturers.

Let us send you these eating samples so you can draw your own conclusions.

No finer or more economical flavors are produced for use in—

Hard Candy Jackets
Centers for Plastic Work
Hard Candy Balls
Hard Candy Fruit Drops
Clear Hard Candies
Hard Candy Marbles
Hard Candy Kisses
Stick Candy
Fruit Tablets
Fancy Figure Hard Candy
Suckers Taffy

FOOD MATERIALS CORPORATION

220-224 N. Desplaines St., CHICAGO

Kindly send your "Proof of the Pudding" Box containing assortment of eating samples of Hard Candies—without charge or obligation. (We are manufacturers of hard candy).

Name ..... Address .....

Signed by .....

Editorial

ROBERT RANDOLPH, Editor

Watch Cocoa

Old Combine Members Reported in Secret Accord to Regain Control at Lower Levels

"Dissolution" seen merely as ruse to outwit farmers. Break below 10c predicted as part of plan.

FROM a well-informed source comes the disconcerting suggestion that the recent dissolution of the notorious Cocoa Combine—far from constituting the permanent withdrawal of this factor from the world cocoa market—is a deliberate ruse, planned for the purpose of destroying confidence in the commodity so that its individual members might be enabled to buy back their way to control at producing levels more advantageous to speculation than those which prevailed at the time of dissolution.

The natives of the Gold Coast, drunk with the prosperity which has come to them with the bull markets of the past three years, have been quick to turn the tables on the Combine by exacting constantly higher prices for their raw produce. Just before the Combine decided upon the "dissolution" strategy, the farmer-chieftains were reported to be asking prices for their green cocoa which approximated 15 cents pound, laid down without profit to the Combine. Obviously, this state of things could not continue. From a manufacturing standpoint, 15 cents appeared to be the deadline, beyond which an increasing amount of sales resistance had repeatedly been encountered. The speculative possibilities of the new crop would thus be largely determined by how low a figure the farmers could be blackjacked into accepting for their cocoa.

The unloading of the old crop was accomplished by holding out as "bait" to three or four of the larger coating manufacturers the opportunity to beat the trade

"Look out, sonny! It's loaded."

to it and load up at the 15-cent level before the "rise." They say that a burnt child fears the fire, but the adage was probably never intended to apply to chocolate manufacturers. At any rate, all but about 150,000 bags of the control stocks are understood to have been unloaded in this manner. The rest is history. By selling September, October and November futures short on the Exchange, the backbone of the market was quickly broken.

It is stated by those in a position to know the facts that the Combine expects to club the producing market into accepting prices below 10 cents, then to quietly garner in the crop while the trade is making up its mind what to do, and start the merry chase all over again. One wonders how often the manufacturer must be burned in order to lear the hazard of overstaying his market? If this story be true, and it has both the weight of authority and past performance to commend it, we are in for a further deluge of fact-distorting propaganda designed to lull us into what might be termed "low-price security." It would seem to be the part of wisdom to remember what happened two years ago and *cover on each decline.*

SAME OLD STORY

Has the Combine really dissolved? or is it merely awaiting the return of its Little Red Riding Hood?

READERS! What Is Your Opinion on These Six Questions?

1—*What do you think of the idea of devising a voluntary score card for evaluating the quality of cream work, the system being similar in arrangement to that recently suggested by this paper for plastic hard candy? (See page 63, August issue.) Have you any plan in mind for the apportioning of credits?*

2—*Realizing that the best of intentions are sometimes unavailing when it comes to renewing the starch on the boards, what plan do you suggest for insuring regularity of renewal?*

3—*What means do you suggest be employed to educate the help to the dangers of manual contamination in the cream department?*

4—*What do you consider to be a fair percentage of creams to include in assorted packages retailing at the following prices:* 50c *lb.,* 80c *lb.,* $1.00 *lb.,* $1.50 *lb.?*

5—*In line with the tendency of various states to forbid the use of both sulphur dioxide and benzoate of soda in maraschino cherries, do you consider it practicable to produce cordial cherries from fruit preserved in any other manner?*

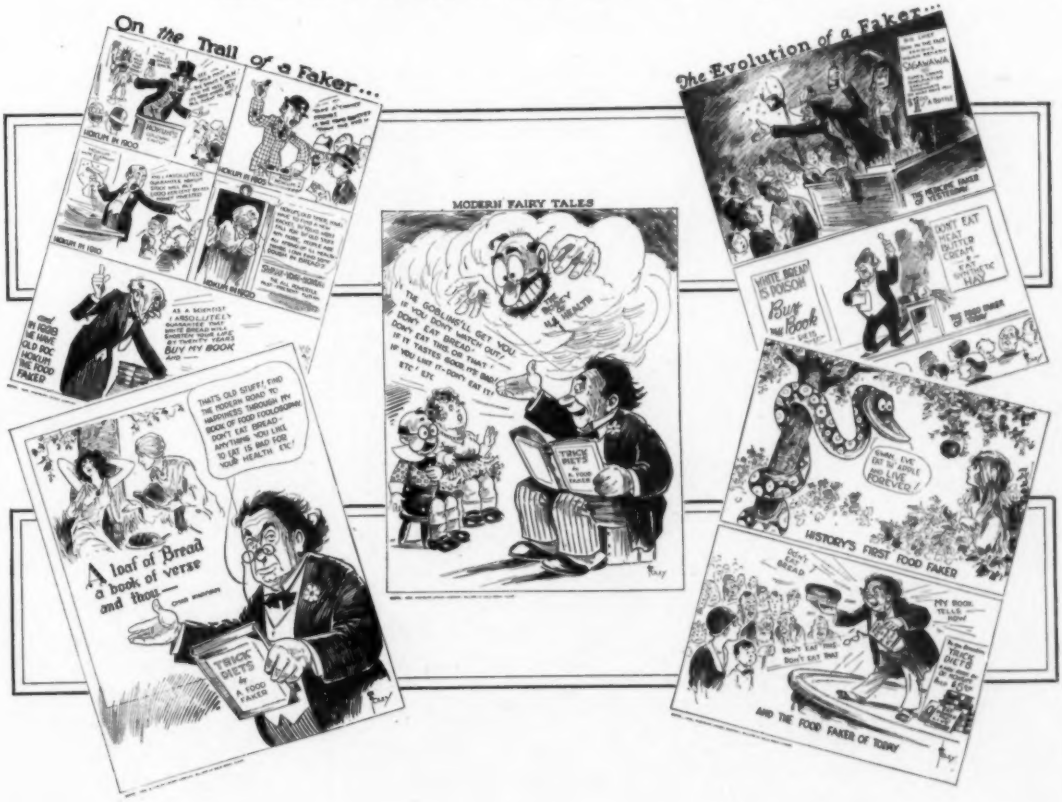
6—*What do you think of the desirability of devising a uniform system of chocolate stroking which the consumer might gradually familiarize himself with in order to avoid disappointment?*

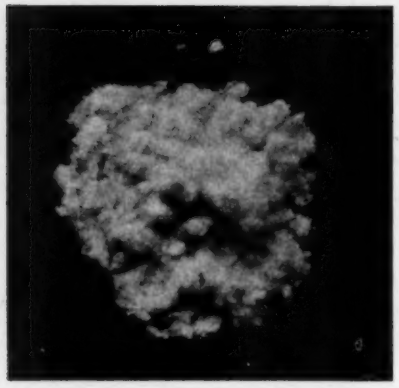
Washburn Crosby's Courageous Food Faker Campaign

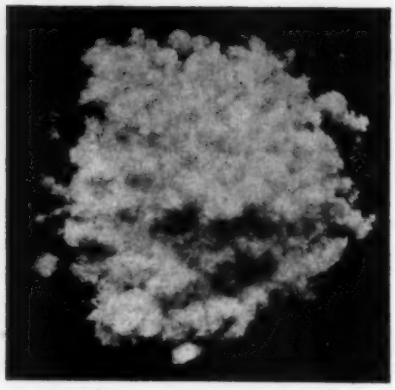
THERE is a close similarity in objective between the Gold Medal flour manufacturer's commendable food faker campaign and our own industry's educational campaign to "Eat Candy, It's Good for You!" Bread, like candy, is an energy-giving carbohydrate. What strikes at one strikes at the other. One lone manufacturer, of all the multitude, has demonstrated that he has the courage to fight back against the whisperers.

Through direct mail, poster display and national magazine advertising, the Washburn Crosby Company is doing its bit to expose the malicious propaganda set loose by the stylists and the quacks. On this page are samples of the posters prepared by this company for free distribution to the trade, where they will be displayed in store windows, etc.

This is the sort of thing which the candy industry has reason to expect of the N. C. A. Educational and Advertising Campaign. Meanwhile, THE MANUFACTURING CONFECTIONER, in its own small way, is striving to do its bit by marshalling the facts upon which such campaigns may be based, under the serial, "Candy in Science and Health," which is continued in this issue.

Will the Candy Industry borrow a leaf from this firm's two-fisted sort of advertising?

On the Trail of a Faker...
HONUM IN 1900
HONUM IN 1905
HONUM IN 1910
HONUM IN 1920
BUY MY BOOK
A loaf of Bread a book of verse and thou—
TRICK DIETS of A FOOD FAKER
MODERN FAIRY TALES
TRICK DIETS of A FOOD FAKER
The Evolution of a Faker...
WHITE BREAD IS POISON!
Buy this Book
DON'T EAT MEAT BUTTER CREAM or EGGS
HAY
HISTORY'S FIRST FOOD FAKER
MY BOOK TELLS HOW
TRICK DIETS
AND THE FOOD FAKER OF TODAY





Ordinary, or Methyl Vanillin,—the natural vanillin crystals of the vanilla bean,—and finally, the new Ethyl Vanillins—now contend for supremacy in the flavoring field. Which is best? There are as many opinions as there are vanillins. Read—

VANILLA and THE VANILLINS

—the newest "triangle" in confectionery supplies

BY A. ADAMS LUND
(Technical Editor)
The Manufacturing Confectioner

A logical sequence to the author's series on vanilla beans. Grateful acknowledgment is made to Monsanto Chemical Works, Givaudan-Delawanna, Inc., Mathiesson Alkali Works, Dodge & Olcott Co., Morana, Inc., and others, for their generous assistance in furnishing material for this article.

MAN'S gradual duplication of the complex products of Nature's laboratories has provided one of the most absorbing chapters in the history of modern progress. Indigo, camphor, alizarin, vanillin.

When chemistry first began to attain the dignity of a science and commenced to unravel these mysterious workings of Dame Nature, it was not at all unnatural that the costly vanilla pod should be among the first to engage the attention of the early investigators. Its sphere of usefulness was constantly growing, crops were uncertain and as demand continued to crowd the heels of supply, prices mounted steadily. It was the same combination of circumstances which has always provided the spark to scientific accomplishment. Numerous chemists in various countries set about the task of isolating and identifying the intricate substance which gave the vanilla bean its characteristic flavor and aroma.

About the middle of the nineteenth century (1858, to be exact), it was definitely established that the tiny white crystals frequently found as an efflorescence on fine vanilla beans and regarded by some as a criterion of their quality, comprised the chief (though fortunately for the vanilla bean business, not the only) aromatic principle of the bean. This crystalline substance of then unknown constitution, was given the appropriate name "vanillin."

Having thus isolated and identified vanillin as the chief flavor component of vanilla, the next step was to try to find some more plentiful source from which it might be derived at low cost and in commercial quantities. Further research revealed traces of natural vanillin in a wide variety of common plant substances, such, for example, as

Sugar beets,
Asparagus,
Cloves,
Benzoin,
Balsam, and
Asafoetida.

Its presence was also noted in the wood of certain trees.

HOWEVER, in none of these plant sources did natural vanillin occur in commercially recoverable quantities. Even the vanilla bean itself was found to contain only 2 per cent to 3 per cent of this most important constitutent. To anyone but a chemist this baffling discovery might have proved an impassable barrier. But the remarkable thing about chemistry is this: that it makes no difference how, where or with what materials one chooses to start from, so long as the finished product is the same as that which we set out to match. We may pre-

Bibliography of Mr. Lund's Vanilla and Vanillin Series to date:

I. From Montezuma to the Modern Confectionery Factory ..... Sept., 1926
II. From the Vine to the Curing Station... Oct., 1926
III. Methods of Curing Vanilla Beans..... Nov., 1926
IV. Grading and Packing Vanilla..... Dec., 1926
V. Pointers on the Purchase of Vanilla Beans ..... May, 1927
VI. Who Gets Lot X?..... Jan., 1928
VII. Vanilla and The Vanillins..... (current issue)

fer to quarry our table salt from natural salt mines or we may choose to build it up synthetically by combining the deadly war gas chlorine with that intractable metallic substance, sodium—in either event the result is precisely the same and may be served on our tables with every guarantee of wholesomeness and health-aiding qualities.

So vanillin might be synthesized from its component elements and there began in England, France and Germany a memorable scientific race to be the first to put together this rare and exceedingly valuable compound. Its composition being ascertained as the aldehyde of vanillic acid (methyl proto-catechuic aldehyde), developments followed one another in quick succession, culminating in the issuance of patents within the same year to Tiemann in England and to De Laire in France covering processes for the manufacture of artificial vanillin (1875).

The first successful synthesis of vanillin was carried out using as a base coniferin, a resin obtained from the bark of pine trees. Then "guaiacol," otherwise known as methyl catechol, was discovered in the tar of beechwood, properly forecasting the later production of vanillin from guaiacol of aniline origin. But as though by prearrangement, the source destined to provide us with our major requirements of artificial vanillin was found growing in the same forests, side by side, so to speak, with the precious orchid whose fruit these scientists were endeavoring to imitate. Within the tightly closed buds of these towering evergreens was the secret of cheap vanillin. The tree was a variety of myrtle tree, and its product—that already useful gift to man's gustatory well-being—clove spice.

Between natural vanillin and oil of clove's major constituent, eugenol, a significant chemical relationship was found to exist. In fact, so close was this relationship, that it needed only the addition of oxygen to transform it into crude vanillin.

For several years following its commercial introduction in 1876, the new artificial vanillin remained something of a laboratory curiosity; and not without reason, for between 1876 and 1879 the price declined from $800 to a mere $175 a pound! Converting the plentiful oil of cloves into golden ducats must have been even more lucrative than counterfeiting in those days to judge only by the fact that vanillin is not what one would call a "profitless" item at prevailing levels under $7 per pound.

Nevertheless, the constant pressure of this huge potential supply of low-cost vanillin was not without an immediate effect for the price continued to hurry downward until the middle of the nineties when competition and quantity production forced it to descend in an even more drastic manner. Between 1894 and 1897 the vanillin market dropped from $72 to $14 per pound. The reduction in cost and gradual growth in consumer acceptance exercised a telling effect upon the wildly careening markets of vanilla beans. Cultivation was restricted to the needs of higher class products, only the superior flavor and aroma of the bean preventing the artificial product from superseding it entirely.

With but one exception, all of the vanillin manufactured in America today is made from clove oil. The domestic production of vanillin is reported to be in the neighborhood of 300,000 pounds annually. Approximately two pounds of clove oil being required to make one pound of vanillin, and about six pounds of the spice being needed for one pound of oil, it will be seen very readily that substantial tonnages of cloves are required for this purpose. In some cases the oil is distilled or extracted from the spice by the vanillin manufacturers themselves. Others buy the prepared oil in the open market.

THE English vanillin manufacturers also use clove oil as the starting point in vanillin manufacture, and although the majority of the plants on the European continent employ the so-called "guaiacol"

***Distilling Eugenol from Clove Spice**—the first stage in the manufacture of synthetic vanillin.*

(Courtesy, Givaudan-Delawanna, Inc.)

or coal-tar process, it is safe to say that of the total world production of vanillin, that derived from clove oil is considerably greater than from guaiacol.

As to the relative merits of vanillins made by the two processes, there has been much unwarranted mud-slinging contrary to the best interests of all concerned. Since vanillin is a definite chemical compound, pure vanillin will be pure vanillin regardless of source, and the only detail worthy of consideration in this connection is the possible failure of a manufacturer to remove traces of manufacturing impurities which might have a tendency to debase the flavor and aroma of the finished product.

Guaiacol vanillins, imported from abroad, received a bad name in this country during the war. It was at a time when all manufacturing processes were speeded up beyond normal capacity and the necessary vigilance in supervision all too frequently relaxed. That much is past history. However, competent examination and practical tests of guaiacol vanillins which are being produced today both in this country and abroad, convince us that there is no longer any justifiable basis for discrimination against the aniline vanilline, per se.

On paper, or in the telling, the manufacture of vanillin appears to be a relatively simple process. Experienced chemists and manufacturers will agree, however, that following a recipe, cook-book fashion, will not turn out an acceptable product, if vanillin at all!

On the other hand, with properly designed equipment, an exacting process control, and the exercise of care in the refining of the crude vanillin, vanillins can be produced by a variety of methods and from many sources, which will be similar in every respect to the vanillin component formed naturally in the sweating and drying of vanilla beans.

Stripped of detail, the manufacture of vanillin from clove spice is as follows:

The clove spice is distilled in huge copper stills with steam. The volatile oil of the cloves passes over with the steam, is condensed and separated from the water. The clove oil so obtained is largely composed of eugenol, the essential constituent of both cloves and cinnamon leaves. The eugenol is next separated from the clove oil and isomerized under pressure (with caustic soda or otherwise) into isoeugenol. It is a derivative of this, acetyl-isoeugenol (obtained by acetylating isoeugenol with acetic anhydride) which is finally oxidized into crude vanillin.

Numerous methods have been advanced for accomplishing this last step; that is, oxidizing the acetate of isoeugenol to produce vanillin. It is probable that sodium bichromate is the commonest agent used, although potassium permanganate is not without its devotees. One manufacturer has attained considerable popularity for his product, claiming to employ *ozonized* air.

Sifting and Grinding Clove Vanillin—

The crude vanillin so produced contains numerous impurities which must be removed by subsequent refining to obtain the highly purified crystals required for food purposes. This purification is accomplished by a series of distillations under exclusion of air, and several crystallations. At the completion of the process, the refined white crystals of man-made vanillin are ready for your chocolate, your caramel or your cream batch.

A pound of vanillin is calculated to possess a flavoring strength equal to thirty pounds of the best vanilla beans. Vanillin is quite stable, although lacking the staying properties imparted to natural vanillin by the fixative resins in the bean. It melts at 80 deg. to 81 deg. C., dissolves sparingly in cold water, more readily in hot, and quite freely in al-

Treating the Eugenol with Nascent Oxygen—*This important step in the manufacture of vanillin is accomplished in a variety of ways. (See text). The method illustrated is known as the "ozone" process.*

(Courtesy, Givaudan-Delawanna, Inc.)

A Price Epic of Chemistry's Triumph Over Natural Vanillin

cohol. A satisfactory solution in 10 per cent alcohol may be obtained with proper manipulation.

Vanillin's position among the world's fine chemicals was beautifully summarized by a contemporary when he said:

"When we consider that in 1876 the cost of vanillin was $800.00 per pound, while today it can be bought for less than $8.00 per pound, the boon conferred by chemistry will be fully appreciated, in that it made what was once the priceless gift of kings accessible to the most humble child of the streets."

***Vanillin Crystallizers**—This is one of several crystallizations necessary to produce the pure vanillin of commerce.*

(Courtesy, Givaudan-Delawanna, Inc.)

(Editor's note: There is a thrilling sequel to this story of vanillin—a new triangle struggle for industrial supremacy is at hand. Will the orthodox vanillin hold its own, or will its new competitor wrest from it the hard-earned prestige which it took from the vanilla bean fifty years ago? The rise of ethyl vanillin will be discussed editorially in these pages as a sequel to this article by Mr. Lund.)

--what will be the fate of the new Ethyl Vanillins?

The "Inside" Story of Candy

PART TWO--"The Role of Candy in Science and Health"

BY ORVILLE H. KNEEN

EDITOR'S NOTE:—Mr. Kneen's series "The Role of Candy in Science and Health," by paving the way for public recognition of candy in the dietary, is sounding a new note in candy-merchandising. In laying down a "fact-barrage" for the guidance of candy advertisers, he is performing a most valuable service for the confectionery industry. Inspired by the National Confectioners' Association slogan "Eat Candy—it's good for you," the Manufacturing Confectioner offers this work as part of its contribution to this noteworthy campaign.

Every reader in the industry owes it to himself to give the facts contained in this series the broadest possible publicity. No selling argument for candy is more potent than Truth.

MR. LOGAN CLENDENNING tells in his fascinating work, *The Human Body,* of the mistress of a ladies' seminary, not so many years ago, either, who remarked that "it was not quite respectable for persons to know about their insides."

If that be true, then there certainly are an "awful lot" of scientists today who are far from respectable. In the last few years there have been made numerous nutrition experiments of the greatest value to the race. So well have these experiments established the place of candy and sugar in the dietary, their beneficial effects on weight, warming, disease, energy, teeth, digestion, etc., that every person owes it to himself and to his children to learn and to heed their conclusions.

It is particularly important, in studying these results of painstaking research, to bear in mind that only *facts* are utilized. *Opinions* have no place in the scientist's life. Those who find in these lines statements which are at variance with what "they say" will find, as I did, that the superstitions against the use of candy as a food have no basis in fact.

Old-time physicians who prohibited sweets of all kinds to sufferers from indigestion, gout, acidosis, and other diseases, likewise those who withheld candy from children, are about as out-of-date today as the athletic coach who fails to furnish sugar to his men before a grueling contest. Not only have sweets been restored to use in the treatment of various diseases such as those mentioned, but their complete elimination by those seeking to reduce weight may be serious and in extreme cases even fatal.

That not all early medical men joined in the hue-and-cry against candy is proved by this statement of Dr. A. F. M. Willich, in his *Lectures on Diet and Regimen,* 1801:

"Sugar is at present one of the first necessaries of life. If moderately used, it promotes digestion, being a gently solvent and stimulating salt."

Not bad for a century and a quarter ago, before the dawn of modern food research!

A Saturation-point in Candy?

READ THIS:

"No one eats anything like the required amount of sugar in his food, because we eat about 3 lbs. of food a day, and since sugar furnishes two-thirds of our entire working and warming powers, it would mean that each person would have to eat from 1½ to 2 lbs. of sugar if the required amount were eaten as sugar."—D. R. Hodgdon, Sc. D., LL. D.

A Very Canny Old Party

Dr. Clendenning has summarized the present medical knowledge on digestion as follows:

"All kinds of food are utilized by the body. The body is a very canny old party and can turn nearly anything put inside of it, except what is actually poisonous, to good account.

"In food stuffs are six kinds of chemical ingredients—carbohydrates, proteins, fats, water, inorganic salts, and vitamins, utilized for production of energy, for production of heat, and for replacement of broken-down cells.

"On the whole it is not necessary in health for anyone to worry about the calculation of his diets, but he may turn them over to this very efficient monitor—the appetite."

Dietetic studies, however, have shown the necessity of seeing to it that a *variety* of foods, including sweets, be regularly provided for our "insides." E. V. McCollum, Ph D., and Nina Simmonds, Sc. D., in *The American Home Diet,* point out that

"one of the outstanding features of the results of nutrition studies is the establishment of the fact that most of our natural foods are incomplete when each serves as a sole source of nutrition.

"It is only by the wise combining of two or more natural foods that a properly balanced ration can be secured—proteins of high quality, an inorganic or mineral supply which is appropriate for growth and maintenance and the provision of the necessary vitamins, as well as providing sufficient energy in the form of carbohydrates and fats in digestible form."

Sugar One of Three Essential Elements

Daniel Russell Hodgdon, Sc. D., LL. D., in *Everyman's Science,* sets down the scientific proportions of a healthful diet:

"The percentage of protein eaten should be about 10%, of fat 30%, and of carbohydrates 60%.

"Carbohydrate food is chiefly produced from plants, except milk. Candies, sugars, starches, molasses, honey, etc., are some of the best examples of carbohydrates. The chief sources are sugar, starch, bread, potatoes, glucose, bananas, etc.

"No one eats anything like the required amount of sugar in his food, because we eat about three pounds of food a day, and since sugar furnishes two-thirds of our entire working and warming powers, it would mean that each person would have to eat from a pound and a half to two pounds of sugar if the required amount were eaten as sugar.

"All the starch which we eat must be changed into sugar, since starch will not dissolve and pass into the blood. Our bread, crackers, cakes, cereals, potatoes, rice, corn, wheat, etc., contain large amounts of starch which must be changed

into sugar by a simple process known as hydration.

"Since candy is considered a food, it should be made free from all adulterations. Candy digests very quickly; hence it is a food ready for use which can give a great deal of nourishment and energy to the body quickly."

The Digestibility of Sugar

Some of the most surprising misconceptions still persist as to the indigestibility of sugar and of candies which are composed largely of sugar. That these ideas are not based upon experimental research can be readily proved by anyone who wishes to go to the trouble. On the contrary, numerous tests have been made which show sugar to be one of the most digestible foods known. In *Farmers' Bulletin* 535, the Department of Agriculture states conclusively:

"Sugars and starches are very important foodstuffs, since with fat they supply the bulk of the energy of the diet.

"At the Minnesota Experiment Station the thoroughness of digestion of sugar was studied with healthy men, five ounces per day being consumed as part of a simple mixed diet. Sugar showed high digestibility, 98.9% of the total energy being available to the body on an average.

"In general it increased the available energy of the whole ration 25% and did not affect digestion of foods with which it was combined. It was pointed out that 'the value of sugar in a ration depends upon its judicious use and combination with other foods.'

"Certainly the extreme views which are sometimes found in popular writings do not seem to be entertained by well-informed physiologists, the conclusion generally accepted being that used in reasonable amounts sugar is both wholesome and nutritious."

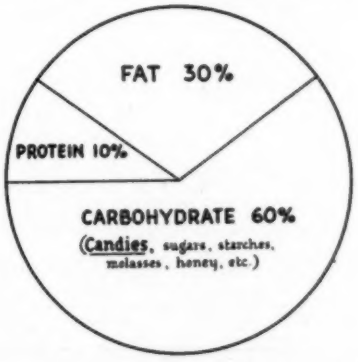
The Department also observes, in its publication, *Sugar*, that "as a source of fuel, sugar is extremely economical."

The "Concentration" of Sugar

Even in this enlightened day the claim is made that sugar is not a wholesome food because it is "unnatural," being a "concentrated" product. Nutritive studies reveal that this position is entirely unfounded. Of the three basic food elements, butter is the pure form of fat; egg-white is pure protein, and sugar is pure carbohydrate. The body digests all of these elements in the pure state as readily as when mixed, although there are many candies which include all three elements in one food.

Furthermore, according to Clendenning, fat is almost three times as concentrated as sugar, averaging 288 calories per ounce, whereas sugar and candy average about 112 calories per ounce. The idea that the healthy human body can digest pure fat and pure protein, but balks at pure carbohydrate, has absolutely no basis in fact.

Scientific proportions of the normal, healthful diet



—as determined by Daniel Russell Hodgdon, Sc. D., LL. D.

Quite the reverse, in fact, is shown by tests. James A. Tobey, Dr. P. H., in *Hygeia*, published by the American Medical Association, tells of the digestion of the various starches and sugars:

"The various types of sugar, single (like glucose), double (like sucrose), and the carbohydrate starch are utilized by the body in a somewhat similar way. Single sugars are burned just as they are, being oxidized in the blood, with the reserve stored in the liver, and to some extent in the muscles.

"Double sugars are broken into single ones in the intestines, by substances known as enzymes, and then the resulting glucose and fructose* are burned as fuel. The starches are first attacked by saliva, where an enzyme converts them into less complicated forms; the enzymes of the intestinal juice complete the breaking up process.

"One of the best sources of fuel for the human body is sugar, and when used in correct proportions to other necessary food elements, sugar is a valuable article of the diet—it is the quickest, cheapest, purest and most efficient fuel for the human engine. Cane sugar begins to burn in the human system in about five minutes after it has been consumed."

*d—Glucose is also known as dextrose, corn sugar, grape sugar; fructose is known also as levulose, fruit sugar, artichoke sugar.

Candy Is More Than Sugar!

Useful as physiologists and nutrition scientists have found sugar to be as a food, the chemist has proved candy to be even more valuable. Alfred Chaston Chapman, consulting chemist, determined the composition of all the chief candy-making materials, and revealed the astonishing food-values of ordinary candy-mixtures.

A few typical items will suffice to show how little the candymaker has realized the nutritive importance of his various ingredients. By using high percentages of some articles, decreasing the proportion of sugar, he can (and often does) make better-balanced foods than any which nature produces.

Thus, round beef is the highest protein-food, with 23% protein;

FASHION'S WILLING SLAVE

—as the "Slave" sees it:

loin mutton is only 15% protein, and fish vary from 13% to 23%. But the best confectionery gelatin contains 78% protein, and dried hen-egg albumen 81%. Nuts, like walnuts, contain around 14% protein, cocoanut 7%, licorice extract 13%, cocoa beans 14%, and almonds 21%. Fruit pectin, another product which is finding its way into candy in constantly increasing quantities, is almost pure protein.

Again, essential fats are present in almost all candies. Dessicated cocoanut contains 70% fat; the fresh butter constituent of dairy products 85%; almonds 53%; cocoa beans 50%; walnuts 48%.

Thus the three elements of foods, proteins, fats and carbohydrates, are already provided in a great variety of candy mixtures. Nor are the remaining essentials of health, the vitamins and the minerals, at all lacking.

Vitamins and Minerals in Candy

Chapman's chemical analyses of candy materials reveal that the mineral matter in filberts, almonds, dessicated cocoanut and gelatin is over 2%; in dried figs it is 2.7%; in gums, such as Senegal gum, it is 3%; in cocoa beans it is 3.6%; in albumen 5%; and in licorice extract 5.7%.

The relative significance of these percentages is revealed when we consider that milk, considered the greatest source of mineral salts for the human body, contains only three-quarters of 1 per cent of mineral elements. Corn syrup, walnuts, dates and raisins all contain higher percentages of mineral salts.

Thus a very fair supply of minerals can be obtained from average candies. One candy manufacturer, "Granger Farms," has attempted to popularize candies with a definite constituency of mineral salts. Others will doubtless follow this lead, thereby more than meeting the charge of those who look upon candy as pure sugar, and therefore lacking in mineral content (though even cane sugar has one-tenth of 1 per cent of mineral substances).

Thus George S. Cornforth, writing in *Life and Health*, says that

"the natural sugars are accompanied by mineral salts which are indispensable to health, while the process of refining and concentrating sugar removes these medicinal and health-giving substances, so that a diet which includes large quantities of concentrated sugar is sure to be lacking in mineral substances."

Keep Warm With Candy

"Sugar is the quickest, cheapest, purest, and most efficient fuel for the human engine."—J. A. Tobey, Dr. P. H.

"Candy digests very quickly; hence it is a food ready for use which can give a great deal of nourishment and energy to the body quickly."—D. R. Hodgdon, Sc. D., LL. D.

Tremendous quantities of these natural, mineral-bearing sugars, such as honey, maple sugar and molasses, as well as the so-called "soft" sugars, are used in candy, and while it is hardly reasonable to expect the individual to obtain *all* of his mineral requirements from candy and sugar, it is evident that the candy-maker may provide a goodly share of them. In any event, as Jean K. Rich, M. S., and L. A. Rumsey, Ph. D., observe (in common with practically all modern nutrition experts): "A good general diet containing meat, milk, bread and vegetables, will supply all essential minerals."

Candy is not simply sugar, but a gathering together of a varied list of toothsome foods from all parts of the world. Dietetic deficiencies which may exist in one natural ingredient are usually counterbalanced by an abundance of the needed elements in others, candy being in a sense the most cosmopolitan of foods.

Of the salts deemed essential by Dr. Clendenning—calcium, magnesium, sodium, potassium, chlorine, phosphorus, sulphur and iodine—Dr. Hodgdon notes that economical standby of the confectioner—dried figs—are especially rich in mineral matter, as are also prunes, cherries, apples and grapes.

"Apples and strawberries," he says, "have a large percentage of sodium. Nuts are rich in phosphorus, potassium, magnesium and calcium. Eggs contain a large percentage of sodium, calcium, iron, phosphorus and chlorin. Milk contains calcium, iron, magnesium, potassium, sodium, sulphur and phosphate. All these minerals are essential for aiding digestion, forming bones, blood, hair and teeth."

Milk products, egg products, dried fruits and nutmeats are almost indispensable adjuncts to candymaking.

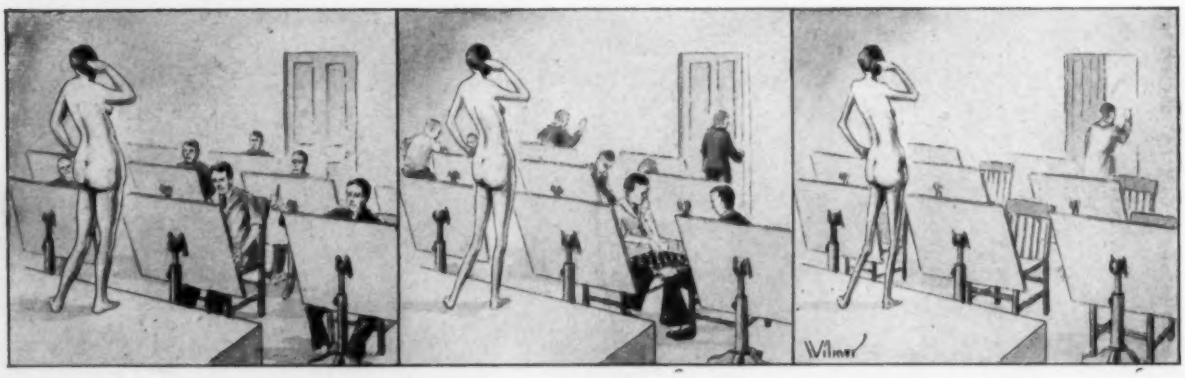
Dr. Herman N. Bundesen, president of the American Health Association, stated in his address to the National Confectioners' Association:

"Chocolate has iron and lime—a small quantity of each, but still enough to be perceptible. How many mothers know that when they are feeding chocolate to their children they are feeding iron, lime, phosphorus, proteins, carbohydrates and fats?

"One of the amino acids is known as lysin, which is found in large quantities in peanuts. Experiments carried out by

FASHION'S WILLING SLAVE

—as Art sees it:



Osborne and Menkel, among the greatest nutritional experts in the world today, in 1912, showed that lysin was absolutely necessary for growth, to build strong bones and bodies and tissues."

In these words, the chocolate peanut bar receives its place in the sun. Other candy materials carrying excellent supplies of minerals include caramel, made by scorching milk, milk-sugar, corn sugar, maple sugar, molasses, cocoa, egg albumen, grains and honey.

Sugar Increases Calcium Storage

Few discoveries of modern dietetics compare in importance with that recently announced by Dr. Olaf Bergeim of the University of Illinois College of Medicine, Chicago. Calcium is the substance with which *bones* are built. *American Medicine*, June, 1927, says:

"Eating sugar tends to make the body store and use calcium much better, according to Dr. Olaf Bergeim. This is very good news for folk who are continually chided about eating too much sugar. Since calcium is very often a limiting factor in our diet, Dr. Bergeim's finding has considerable importance.

"He found that large amounts of starch, glucose, fructose (fruit sugar) and maltose would increase the calcium absorption in animals with rickets, a disease caused by faulty absorption of calcium. These sugars are fed in the ration.

"But lactose, or milk sugar, was especially pronounced in its effect, it being far superior to glucose, cane sugar, maltose or starch. While lactose itself could not actually prevent the development of rickets when the diet was low in phosphorus and in the so-called anti-rachitic vitamine, its use did very materially assist calcium absorption at all times, and that is all to the good.

"Dr. Bergeim thought this effect due to the fact that eating lactose causes an increased lactic acid fermentation in the intestines and therefore renders the intestinal contents more acid than usual. This increased acidity makes such salts as calcium phosphate dissolve easier and they therefore pass through the intestinal wall, whereas they would be excreted unabsorbed if insoluble. Hence a greater amount of calcium gets into the blood for use in the body.

"The pronounced effectiveness of lactose in increasing calcium absorption should be considered in connection with the preparation of milks for infant feeding and generally in the planning of diets, inasmuch as calcium is probably one of the limiting factors in the diets of many people.

"It is to be remembered that even cane sugar is helpful in this respect. But the added fact that lactose also aids in reducing intestinal putrefaction argues much additionally in its favor."

After such definite "fact-finding" and conclusive evidence of the place nature has provided for its most universal flavor, the following statement by a non-scientific writer seems to fall rather flat:

"Cane sugar, when included too largely in the diet, will make the building of sound teeth impossible, and will even take lime right out of the inside of the teeth, because such a diet lacks lime."

Nature has a definite purpose in making more than one-half of all wholesome foods sweet in taste!

Saving Calcium for Teeth and Bones

"Eating sugar tends to make the body store and use calcium much better, according to Dr. Olaf Bergeim. This is very good news for folk who are continually chided about eating too much sugar! Since calcium is very often a limiting factor in our diet, Dr. Bergeim's finding has considerable importance."— American Medicine, June, 1927.

Candy Has Vitamins, Too

The necessity for certain peculiar substances in the diet, known as vitamins and proven absolutely necessary for growth and health, is known to every person who reads. That candy materials contain vitamins is not so well known.

Dr. W. D. Sansum, M. S., M. D., director of Potter Metabolic Clinic, Santa Barbara Cottage Hospital, calls attention to the abundance of fat-soluble vitamin A in butter fat (also in cream), and in egg yolk. Wheat germs, rye and barley protect against beriberi, caused by lack of water-soluble vitamin B. Water-soluble vitamin C, whose absence gives rise to scurvy, anemia, spongy condition of gums, and a marked tendency to hemorrhages, is abundant in lemons, oranges, grapefruit, and the germs of seeds.

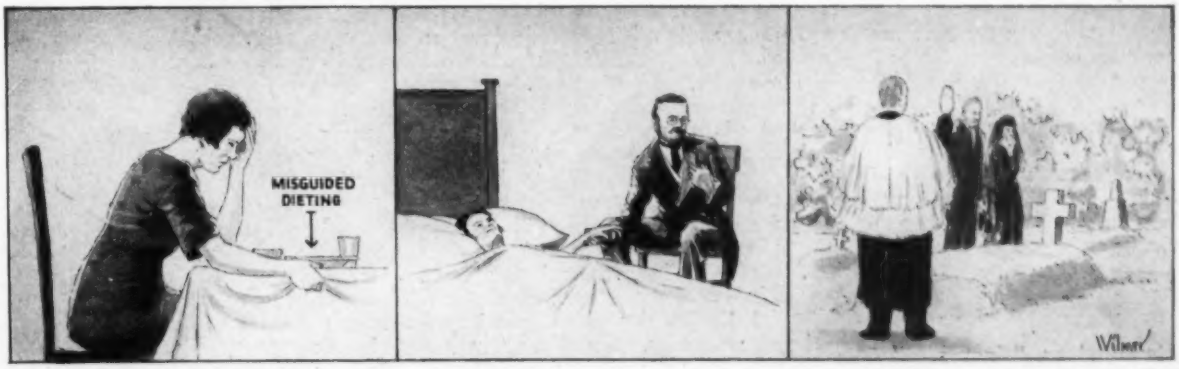
Fat-soluble vitamin D, the lack of which is responsible for rickets and mal-development of bony tissue, such as prevails in city slums, is found in conjunction with vitamin A.

Dr. Sansum notes that only vitamin C is destroyed by high temperatures (such as occur in candy making). And even this vitamin, abundantly supplied by the fruits mentioned, can be saved by heating in sealed cans, excluding oxygen in the same manner as fruits and vegetables are canned.

(*To be continued*)

FASHION'S WILLING SLAVE

—as Science sees it:



The Materials of Flavor Blending

BY RUSSELL B. STODDARD

(Part II. Flavor Blending—A Neglected Art)

A series introducing to the confectioner a new principle in the use of everyday flavoring materials

NO DISCUSSION of flavor blending can proceed far beyond the stage of generalities without getting down to definite and fairly detailed discussion of the various classes of materials at the disposal of the flavorist. Yet we face, first of all, the decision whether to classify according to origin and known chemical characteristics, or on the more empirical basis of "flavor relationships." Possibly in view of the purpose at which we are aiming, the latter classification may seem the more practical and important, but it offers such manifold difficulties that it must be put aside temporarily in favor of a division on more exact lines.

Classifying in this way, the broad divisions are not numerous and are fairly well defined. Most important from the standpoint of the volume in which they are used come the essential or volatile oils, practically all of which are derived from various natural sources such as herbs, leaves, roots, etc., by distillation with steam. Peppermint Oil stands in the rank of first importance and the yearly consumption by the candy manufacturers of the United States approaches half a million pounds although it may be a slight extension of the definition of candy to include chewing gum in which much of this oil is used. The other most used essential oils, without attempting to rate them in their order of usefulness are clove, spearmint, birch, anise, cassia or cinnamon and numerous others.

Essential vs. "Expressed" Oils

Strictly speaking, lemon and orange oils are not essential oils since they are not distilled, being expressed either by hand or by machine from the skins of the corresponding fruits; however, commercial practice of long standing, plus the chemical and physical characteristics of the oils, entitle them to be regarded as genuine essential oils.

Up to the present time practically all of the essential oils which are used by the candy maker have been used "as is." That is to say, little or no attempt has been made to explore the possibilities of combining them either with each other or with other ingredients to produce partially blended or "shaded" flavors or to create definitely different ones. When this is attempted in a serious way it will be found that many of the oils hitherto considered unavailable will be found to possess possibilities of usefulness in blends. Which of these less known oils will give the best results remains to be seen as the field is practically unexplored and some unexpected results may be looked for.

Discussion of the essential oils as flavor ingredients remains incomplete without some consideration of the terpeneless oils which are attracting more and more attention in flavor work of all kinds. Even though an oil is pure it is not necessarily one hundred per cent flavor strength. It may contain but a relatively small proportion of constituents having actual flavor value, the balance being made up of ingredients which add nothing to the flavor character or the strength and which frequently detract from it. Orange oil is a good example of this since the bulk of the natural oil consists of almost flavorless terpenes. Careful distillation under reduced pressure removes part of the terpenes, producing a wholly or partially terpeneless oil depending on how far the process is carried. The same is true of lemon oil although the percentage of materials in lemon oil possessing actual flavor value (about 4 to 6%) is far higher than in orange oil.

Enlarged Usefulness of the Concentrated Oils

Terpeneless and semi-terpeneless oils have a very definite usefulness in many branches of flavor work on account of their greater concentration and lessened susceptibility to deterioration. Nevertheless, candy makers have given little attention to them. The question of their relative value in candy as compared with the corresponding unconcentrated oils has yet to be decided. Against their use is the fact that if the process of concentration is carelessly done or carried too far, it may damage the finer shades of the flavor. Yet this need not be so, and many candy makers are beginning to discover that by using a Lemon or Orange Oil which is not completely terpeneless, but two, three or five times concentrated, they can get better results at no increase in cost.

Containing as it does well over 50% of actual flavoring constituents, Peppermint Oil is not so susceptible to concentration although it does contain quite a percentage of terpenes. Yet it is surprising how much an ordinary U. S. P. Peppermint Oil is improved in flavor and odor by the removal of 5 to 15% of the most objectionable of these terpenes.

If anyone is to go into the question of flavor blends, it is certain that the whole question of specially-treated and semi-concentrated oils will come up for discussion and experiment, and that much may be expected in the way of improved materials. For example, if the clove note is desired in a flavor, why not use pure eugenol which is the essential constituent of Clove Oil, to the extent of 80% or better; and if eugenol, why not its isomer, "iso-eugenol," which from the standpoint of odor at least is far more spicy and attractive?

This brings us automatically to consideration of the second great class of primary flavor materials—the isolates (pure chemical bodies derived from the natural oils), and the synthetics, also pure chemical bodies but produced artificially rather than separated by simple means from natural mixtures. In the first class we have such products as eugenol from clove oil, eucalyptol from eucalyptus oil, anethol from anise oil, geraniol from citronella

oil, etc.; and in the latter class, to mention only a few of the literally numberless possibilities, we can list such well known flavor materials as methyl salicylate or artificial wintergreen, vanillin, coumarin, ethyl acetate and all the so-called "fruit ethers," etc.

The distinction between the two classes is more artificial than real; possibly meaningless from the viewpoint of the flavorist, except as the isolates represent the isolation of the flavoring principle of some essential oil with which he is already familiar.

Limitations of the Synthetics

Just what part some of these materials are ultimately destined to play in flavor blending remains to be seen. The use of vanillin and coumarin is well understood. The "fruit ethers" furnish the base of practically all the artificial fruit flavors, together with the various aldehydes which have been found most useful. Two things, however, are fairly certain. First, that a vast improvement is possible in the use of these ingredients even in the present fruit flavors, while a new and useful place can be found for dozens and hundreds of them which are not even being tried. Second, while the synthetics have their rightful place in combinations, it will be found practically impossible to build a flavor exclusively from them which will not taste too much like a perfume or a varnish to be altogether agreeable and popular.

Prophecy is never more dangerous than when it presumes to make predictions in an uncharted field, but it would seem safe to assume that the compound flavors of the future will be judicious combinations of both natural and synthetic materials. The best procedure may be to choose a natural flavor and build around it; or it may be better to prepare a synthetic combination as a base and tone it by the suitable addition of natural ingredients. Possibly good results may be obtained either way according to the caprice or predilection of the investigator. In the perfume field both methods are employed with about equal success, but with the latter more favored. In flavors, the former seems more logical and destined to find greater favor.

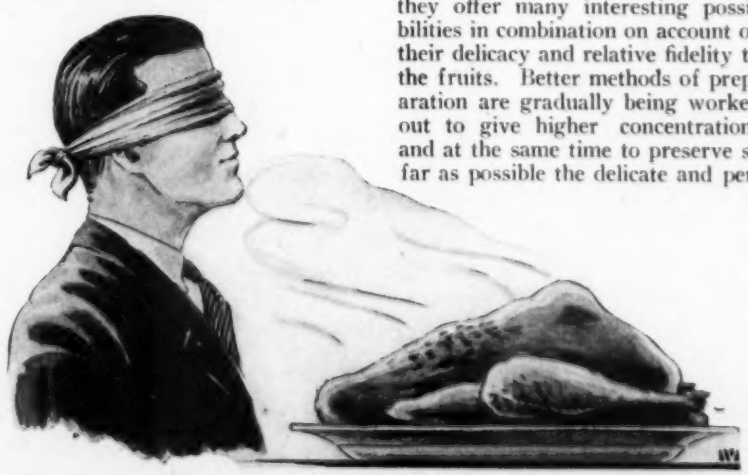
It is rather beyond the scope of these articles to tell how to blend flavors. Their purpose is rather to suggest possibilities and modes of attack, leaving the solution of the questions raised to the care of those better qualified. But just as a suggestion, it would be interesting to take even so characteristic a flavor as peppermint and see how it is modified by the addition of other oils or synthetics or combinations of them. The result might not and probably would not be peppermint, but it might be something equally agreeable and decidedly more novel.

Blending Natural Fruit Flavors

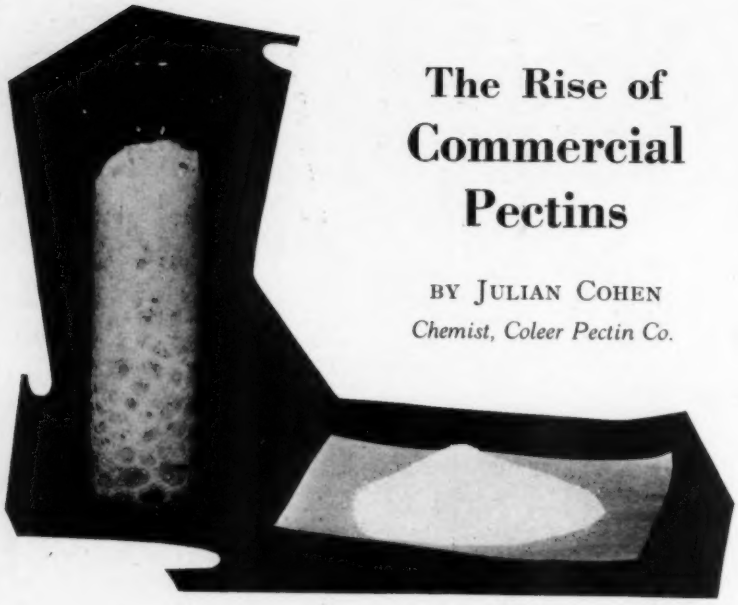
The third broad class of basic flavor materials is that of the fruit flavors; not the artificial ones as they are already blended and compounded, not too successfully in many instances, but the natural fruit juices, concentrated to as great an extent as is practical. Unfortunately, in relation to their effectiveness these genuine fruit flavors are rather expensive and none too lasting. Yet they offer many interesting possibilities in combination on account of their delicacy and relative fidelity to the fruits. Better methods of preparation are gradually being worked out to give higher concentrations and at the same time to preserve so far as possible the delicate and perishable flavors of the fruits themselves. Much remains to be done along this line, but definite progress has been made. In fact, practically all of the better artificial fruit flavors are little more than the concentrated natural fruit juices more or less expertly fortified. These natural fruit flavors should play a large and constantly increasing part in the new art of flavor blending, particularly in flavors intended for centers and icings.

There are at least two large factories in the United States where the superintendent is an accomplished chef. Chefs are past-masters at flavor-blending and from France comes news of the successful introduction of exotic flavors into meats and fowl by intravenous injection.

There is one point which will have to receive full consideration by every flavorist who seriously attempts flavor blending. All materials used must be pure and free from any sophistication. Otherwise any results obtained will lose value owing to the unreliability and lack of uniformity of the materials. Bitter experience has taught perfumers that a valued and successful formula can be ruined by the substitution of a single material which is not up to standard, owing to the jarring effect of the impurities thus inadvertently introduced. It is only reasonable to suppose that the same will and must be true in a compounded flavor. A sub-standard peppermint oil, for example, might be used by itself in candy with no very serious results, at least none plainly perceptible to the average customer; yet if that same oil were used in a combination in place of a high grade oil, the impurities might clash with the other ingredients in such a manner as to produce a seriously discordant result. It has happened too many times in perfumes to leave anyone in doubt as to the realness of the danger, and the analogy seems a close one. The first aim of the flavor blender must be dependable materials. Without them any progress will be illusory.



You recognize your favorite holiday bird, not by the odor of its flesh but by the odor of the traditional seasoning which memory has long associated with it. Association plays a powerful part in practical flavor-blending.



The Rise of Commercial Pectins

BY JULIAN COHEN
Chemist, Coleer Pectin Co.

THE use of pectin in refined form is more or less new to the confectionery industry, although in its natural form it has been used for many years. Being the natural jellying principle present in all plant life, it has been used in the manufacture of jellies, pastes, etc., as long as confectionery has been made.

Refined pectin, as a commercial product, has certain well-defined possibilities, as well as certain definite limitations. It is believed to require a certain amount of sugar or sugar materials (usually at least 40%) in order to exhibit its jellying properties. What is believed to be another absolute requirement under present conditions, is the presence of an acid. On the other hand, this latter requirement is distinctly advantageous in gum work, as most gums break down in the presence of an amount of acid sufficient to fully develop the flavor.

It must be admitted that the present knowledge concerning the pectins is extremely limited. Most of the literature which has been written on the subject is without scientific value because of the lack of definite standards upon which to make statements or base comparisons. Such standards must be had before any great amount of progress can be made. In the writer's opinion, pure pectin may be represented as possessing a definite formula. If we assume this formula as a base, it should then be possible to place a value upon all samples varying from the standard. Pectin conforming to this formula appears to have a definite jelly strength.

Possibly a large part of the blame for the limited use of pectin by the confectioner can be laid at the door of the pectin manufacturers themselves. Pectin today is classified according to the number of pounds of sugar which will combine with it to form a good jelly. This standard jelly was a 65% sugar jelly and of such consistency as to be satisfactory to a preserver, but not to a candy manufacturer. Where pectin has been rejected for candy-making, it has probably been due to working from this standard.

Generally speaking, the candy maker wants a firmer and drier jelly, and this is obtained either by a further concentration of the batch or by the use of more pectin. The latter is preferable, for too high a percentage of sugar is bad, and too much acid causes "weeping" or the formation of water on the surface.

In discussing pectins, we prefer to speak of the commercial powdered pectins, because we feel that they can be more rapidly standardized and are not susceptible to changes as are the liquid pectins. Nevertheless, in using the powdered variety the confectionery manufacturer must take pains to see that all of the pectin is thoroughly dissolved in his batch, or he need not expect uniform results.

As a general rule, the lower the percentage of pectin for any given amount of sugar, the more tender the jelly which will be formed; and conversely, the tougher the jelly. However, it is also true that different consistencies of jelly may be obtained by varying the percentages of sugar in the finished goods. The rule here is that the lower the amount of sugar present, the more brittle the jelly becomes.

Any discussion of the uses of pectin by confectioners must necessarily take the form of suggestions rather than specific directions, since results are likely to vary with the size of batches and other local factory conditions. Also, those manufacturers who have learned how to use the product successfully on a

ONE of pectin's chief advantages over other jellying agents is that it gives a consistency nearer that of a natural fruit jelly. Such a jelly will have a "wet" break, as against the short, dry break of an agar jelly or the stringy break of starch and gum jellies. Inasmuch as the texture of natural fruit jelly is the prime desideratum in making this class of confection, this is a distinct advantage in favor of pectin jellies.

Another desirable feature resulting from the use of commercial pectins is the comparative ease with which the jellying action may be controlled. Mixtures of pectin and sugar such as the so-called "standardized" pectins, will not gel until acid is added to the batch, whereupon the jellying action proceeds with great rapidity. This makes it possible to avoid long waits for the centers to set after they have been cast in starch.

Samples Showing the Typical "Break" or Fracture of Pectin Jellies

large scale have so far been unwilling to make public information gained through experience and at their expense.

Although the writer is convinced that other properties of pectin vary as well as the jelly strength, this remains to be proved. Pectin can undoubtedly be used for purposes other than jellying and the major interest of confectioners would seem to lie in these fields. The employment of pectin to prevent or retard crystallization, its use as an emulsifier and as a thickener, merit further attention and study.

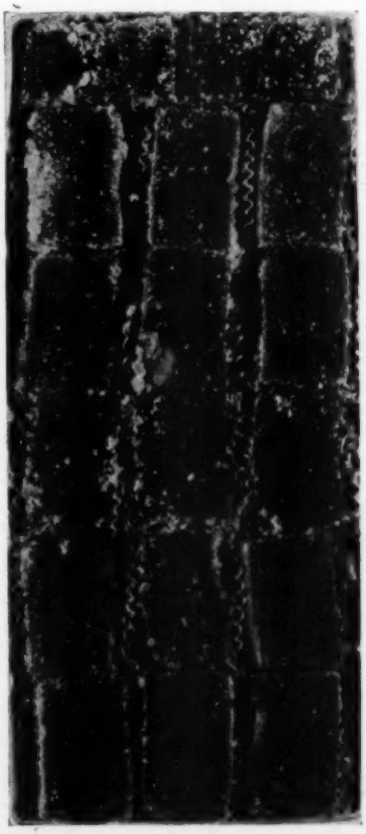
The use of pectin jellies in combination with cream centers is already being practiced on a large scale. The jellies are not permitted to cool or set before being mixed with the rest of the batch, so that when cooling does take place, a definite set and shape is obtained by restricting the growth of the sugar crystals. (A trade-marked preparation consisting of invert sugar and pectin is available for this purpose, the setting of the jell being accomplished in this case by the mere addition of acid.—EDITOR.)

The principle involved in the use of pectin in fondant is action as a protective colloid. This is the same principle involved in the use of gelatine in ice cream. Thus far pectin has not been used in ice cream for this purpose, although it has been adapted for use in water ices. As certain grades of pectin are entirely without color or flavor and yet readily adaptable to flavoring, they naturally exhibit definite advantages over gelatine for this class of work. Further investigation along lines similarly applicable to the candy industry would seem to offer genuine possibilities.

What Is a Good Fruit Jelly?

BY R. J. BURKE

Vice President, White Stokes Co.



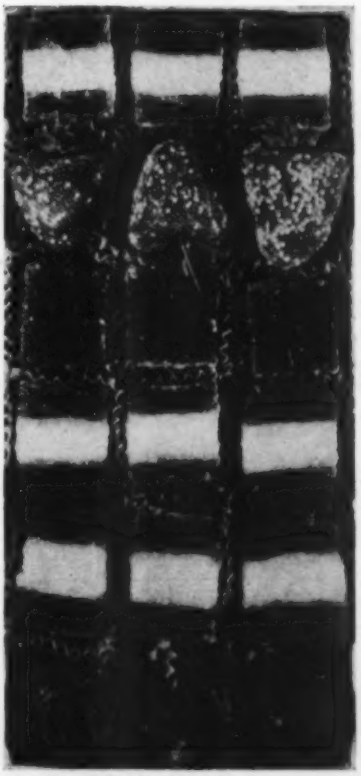
WHAT is a good fruit jelly? N. E. Goldwaite, Ph. D., in the University of Illinois Bulletin, gives an excellent description of this food product as follows:

"Ideal fruit jelly is the beautifully colored, transparent, palatable product obtained by so treating fruit juice that the resulting mass will quiver, not flow, when removed from its mold; a product with the texture so tender that it cuts easily with a spoon, and yet so firm the angles thus produced retain their shape; a clear product that is neither syrupy, gummy, sticky, nor tough; neither is it brittle, and yet it will break and does this with a distinct, beautiful cleavage which leaves sparkling, characteristic faces. This is that delicious, appetizing substance, a good fruit jelly."

A good fruit jelly consists of the following ingredients:

1. Fruit Juice, containing
   (a) Pectin
   (b) Acid
2. Sugar.

Pectin, the natural binding agent present in fresh fruit, is what makes jelly jell. Both pectin and acid are absolutely essential to the manufac-



ture of natural jellies. Pectin occurs in the fruits in varying quantities. Some fruits, such as rhubarb, pineapple and apricot, lack this constituent to such an extent that it is impossible to make a jelly from them without the addition of natural pectin, and this accounts for the many unsuccessful batches of jelly.

Consequently, in order to accurately control the jellying property, it would seem desirable to supplement commercial pectin to *all* fruit batches in order to bring them up to a standard jelly strength.

There are two different types of commercial pectin, available for manufacturing purposes. One is made from apple skins and cores, and is called "Apple Pectin." The other, called "Citrus Pectin," is made from the white portion of the rinds of lemons, grape fruit or oranges. The latter makes the clearer jelly. There is also a liquid apple pectin on the market.

A great deal of experimental work has been done to perfect a readily controlled, *standardized* pectin product, suitable for use by manufacturing confectioners. Standardization has accomplished three things: (1) It has produced a product with the requisite sugar content to insure dependable jellying; (2) standardized the differences in the jellying power of individual lots of the ordinary commercial pectin, thus insuring uniform results in jelly manufacture, and (3) made for greatly increased solubility which is frequently the stumbling block to the use of ordinary pectins.

With standardized powdered pectin, such as "Whisto Jel," the candy manufacturer is able to turn out a tender, natural fruit jelly. These true fruit jellies enable him to use up the constant accumulation of fruit juices, such as pineapple, cherry and strawberry, from canned goods, cold packs, etc. They may be either cut or cast, cut in square or oblong pieces, sanded in granulated sugar or dipped in chocolate or bonbon cream; nutmeats, raisins, etc., can be added to make these the most delicious and novel confections.

E. A. Jaffee, who until recently was connected in an executive capacity with the sales work in the Cleveland office of the Euclid Candy Company, is now with the San Francisco office of the same concern. Jaffee is sales manager for the Euclid Company throughout the Pacific Coast and Western territory.

Ask Me!

1. *What is the most frequent cause of gas formation in a fondant?*

2. *How does the enzyme invertase operate to invert sugar?*

3. *How does the manufacture of corn syrup resemble the process of digestion?*

4. *What is "guaiacol" and of what interest is this material to confectionery manufacturers?*

5. *Why is the hydrolysis of sugar termed "inversion"?*

6. *What are the recognized scientific proportions of protein, carbohydrate and fat in the normal healthy diet?*

7. *What is a fixative and what is its application in confectionery flavors?*

8. *Why do most California shelled almonds have lighter-colored skins than the European varieties?*

9. *How is powdered pectin made to dissolve quickly in the batch without lumping?*

And another for the plant superintendent with a penchant for figures—

10. *How many B. T. U.'s of refrigeration are needed to bring chocolate from the temperature at which it strikes the goods in a coating machine, to the proper setting point ready to be packed?*

(*Answers in next month's issue.*)

Answers to September Questions

1. *Which types of candy are best for teeth and gums?*

Ans. Those which exercise the gums in chewing; notably, molasses taffy, chewy honey nougat, etc.

2. *How does Science refute the claim that candy ruins the teeth because of Sugar's natural affinity for the mineral elements which they contain?*

Ans. By proving that the eating of large quantities of sugar increases calcium storage in the body, calcium being the mineral required for bone-building; and by demonstrating that the majority of candy raw materials including sugar, molasses, honey, chocolate, etc., contain small but effective quantities of the necessary mineral substances.

3. *What is meant by "seeding"?*

Ans. Bringing about the crystallization of a batch from the liquid phase by introducing a minute crystal of its basic sugar as a starter.

4. *Why do alcoholic vapors carry off even the higher boiling flavor constituents during the manufacture of hard candy? Is it possible to arrest this loss?*

Ans. Because alcohol is such a perfect solvent that it resists being separated from the substance it dissolves. The resulting losses in flavoring material can be largely avoided through the use of non-alcoholic solvents such as have recently been introduced on the market.

5. *Name three important classes of basic material suitable for flavor-blending.*

Ans. The essential oils, both natural and concentrated; the synthetics, such as the so-called "fruit ethers," vanillin, coumarin, etc.; concentrated natural fruit juices.

6. *Why do crystallized corn sugar candies produce a cooling sensation when placed in the mouth?*

Ans. Corn sugar dissolves in the saliva with great rapidity, the action requiring heat. The heat is drawn from the mouth producing the sensation of coolness.

8. *Who wrote "Modern Confectionery"?*

Ans. Robert Whymper.

9. *Name four dry sugars of different chemical formula which are being successfully used in the quantity production of candy at the present time.*

Ans. (1) Sucrose (cane or beet sugar); (2) dextrose (corn sugar); (3) lactose (milk sugar); (4) maltose (malt sugar).

10. *What is the difference between "free" moisture and water of crystallization? Can both forms exist in the same sugar simultaneously?*

Ans. Both are water, the latter being in close molecular union with the substance while the former is not. The same sugar, for example, dextrose, may crystallize alone, as *anhydrous dextrose*, or with one molecule of water of crystallization, as *dextrose hydrate*. The latter may contain free moisture as well as water of crystallization.

The Frank Ad—"*Truth in Advertising*"!!!

After the vogue set by well-known national advertisers of mouth washes, bathtubs, colored toilet papers, etc.

Pugsley Candy Company, 826 East Burnside Street, filed articles of incorporation to do business in Portland, Ore. The capital stock is given as $10,000. Frank Pugsley, recently candy maker and superintendent of the Candy Products Company in that city, is manager of the new concern, having sold his interest in the former company. It is expected that operation will start early in October. Products of the company will include novelties, hard candies and horehound, on which Mr. Pugsley has specialized.

Special machinery has been ordered from Germany for installation in the new plant, this to be used for the specialties in candy items. Other modern equipment is also being installed in the factory and office, which will comprise about 5,000 square feet.

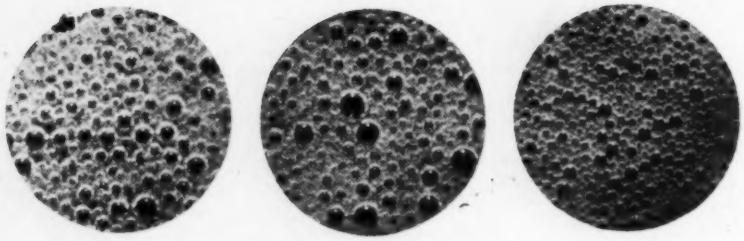
The German machine is the only one of its type in the United States, except one now in use in Boston, Mr. Pugsley states, and he has the exclusive rights on it for two years on the West coast.

Mrs. Pugsley will assist her husband in the factory, as she is also experienced in candy production. She will have charge of a large force of girls in the hand wrapping department. Mr. Pugsley has been in the candy business for 32 years, the past 10 of these having been spent in the Candy Products Company, which was founded by himself and Mr. E. A. Hollinshead. For a number of years previous to this he was in Marshfield. From his new factory he will cultivate a market from Denver to the Pacific Coast.

Peter Witty of Evanston, Ill., sells his business after 20 years of successful manufacture of penny wax chewing gum novelties to the Favorite Wax Goods Company of Eau Claire, Wis., who are now manufacturing a more extensive line of penny wax confections than ever before, in addition to the Peter Witty line. The incorporators of the Favorite Wax Goods Company are R. B. Webster, A. I. Fagerlie and I. C. Barager.

* * *

S. F. Stenner has opened a new candy factory in Seattle, Wash. This plant is located at East 56th and Tenth Avenue, N. E., Seattle, from which he turns out his new confections.



Sp. gr., 0.500 Sp. gr., 0.400 Sp. gr., 0.350

Marshmallow Air Cells
(proportionately magnified)

Scientists evolve new test for determining

"Jelly Consistency"

—as a means of evaluating marshmallow gelatines

Being an Interpretive Abstract of a Technical Paper Appearing in the April, 1928, Issue of *Industrial and Engineering Chemistry*

BY MESSRS. BRIEFER AND COHEN
(Research Staff, Atlantic Gelatine Co.)

The Briefer and Cohen paper is a notable contribution to the rather meagre literature on an important subject, although unfortunately presented in a condensed and highly technical manner which makes it difficult reading for the chemist, much less the average layman. Not one, but several readings of the article may be required to grasp the full significance of these results. It should be carefully analyzed by all those having an interest in the scientific phases of marshmallow manufacture. (This interpretation by Messrs. N. W. Kempf and A. A. Lund of the Technical Staff of The Manufacturing Confectioner.)

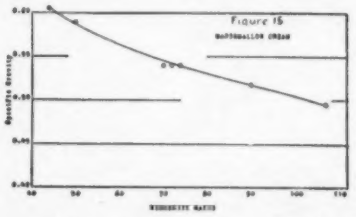
THE article, entitled "Pure Food Gelatine," records in a characteristically technical fashion the results of some extremely interesting and valuable research on the testing of gelatines for the purpose of determining their value in marshmallow work. It is of value not only to the chemist and candy superintendent but to the buyer of gelatine as well, inasmuch as it forecasts the possible adoption of a new standard for evaluating marshmallow gelatines.

The authors have developed an entirely new test for measuring that property of gelatine which they call "Jelly Consistency." It is an accepted fact that jelly strength alone is a poor measure of the value of a gelatine for marshmallow work. But having demonstrated that viscosity is also an important factor, Messrs. Briefer and Cohen proceed to demonstrate that the *product* of the jelly strength and the viscosity (which they call "jelly consistency") is a truer guide to the value of a gelatine than either of these properties alone.

The authors have devised a simple and ingenious method for measuring this "jelly consistency." It is determined by measuring the fall of a shot into a jelly under certain empirical conditions. The apparatus which they used can be constructed at a reasonable cost by the average laboratory, and does not involve the large investment connected with the Bloom Gelometer. Not only did the investigators find measurements of jelly consistency to be useful in the study of gelatine behavior, but in determining the amounts of the various types of gelatine required to obtain a given result.

Their work also goes into the effect of pH (Hydrogen-ion concentration) on this newly-defined characteristic of the gelatine. A number of curves show in a striking manner how the jelly consistency of gelatines obtained from different sources reacts to variations in Hydrogen-ion concentration. In examining these curves it is interesting to note that gelatines derived from pigskin stock are extremely sensitive to changes in pH; in gelatines made from limed calf stock, however, the effect of the pH is comparatively slight. Each type of gelatine gives a characteristic jelly consistency-pH curve, the results indicating that any blending of these two types calls for a thorough knowledge of the properties of each in order that the resulting blend shall not be inferior to the average of its individual components.

In determining the effect of jelly consistency on marshmallow, a small Hobart beater was used, the formula being a simple one containing sugar, glucose, gelatine and water. All factors such as temperatures, time of beat, speed, etc., were kept constant, and only the gelatine varied. In this manner it was possible to establish that the differences observed in the resulting marshmallows were directly at-



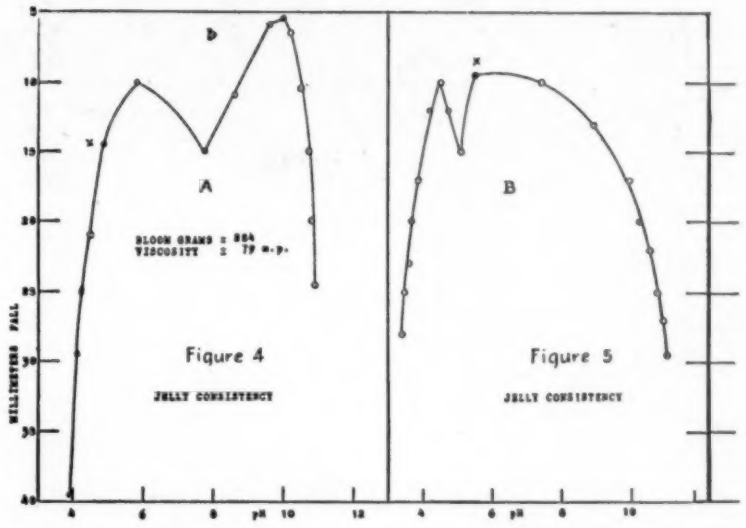
Assuming a constant jelly strength of 200 Bloom, the curve shows that under normal conditions (i.e.; with no grease or other foreign ingredient to inhibit the "beat"), there is a steady rise in specific gravity (decrease in "beat") as the viscosity of the gelatine is decreased.

tributable to the action of the gelatine alone. As an arbitrary criterion of marshmallow-value, the specific gravity of the marshmallow was used, the specific gravity being an inverse measure of the amount of "over-run" or beat obtained.

The tests so conducted point to the interesting conclusion that for any given "Bloom" or jelly strength, the specific gravity which may be obtained increases as the viscosity decreases. In other words, other things being equal, the higher the viscosity of a gelatine (within certain limits), *the higher will be the "beat," or volume, of the resulting marshmallow*. This conclusion was strengthened by a series of tests in which the viscosity of a number of gelatines of different jelly strengths was held nearly constant merely by varying the quantities used. The specific gravities of the resulting marshmallows were very nearly alike.

Thus the work of these investigators furnishes ample evidence that viscosity is the most important single factor entering into the manufacture of marshmallows. Considerably more work will have to be done to establish definitely the relation between jelly strength, viscosity and pH, though at all events, the property of jelly consistency which has just been defined, appears to offer a better measure of the value of a gelatine for marshmallow purposes than the jelly strength test heretofore employed.

Effect of pH on "Jelly Consistency" of Different Stocks



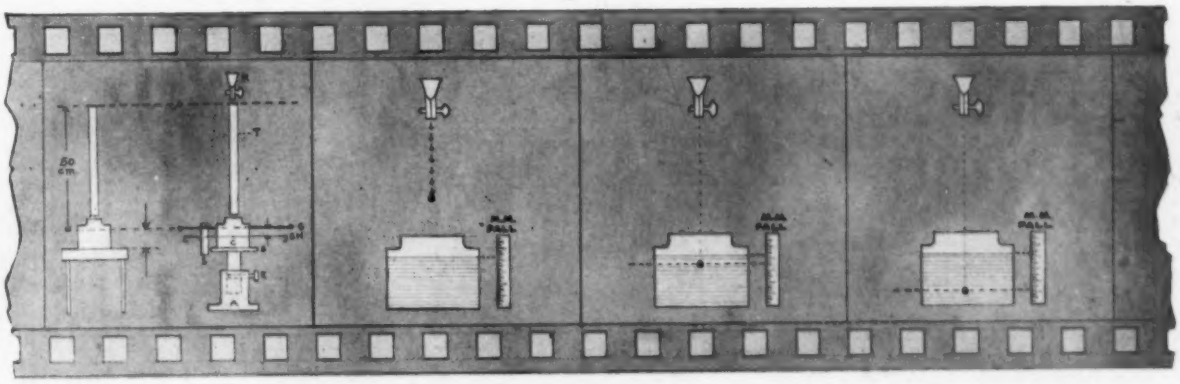
ACID-PLUMPED STOCK
Diminished jelly consistency occurs at pH 8.0 (alkaline)

LIMED STOCK
Diminished jelly consistency occurs at pH 5.0 (acid)

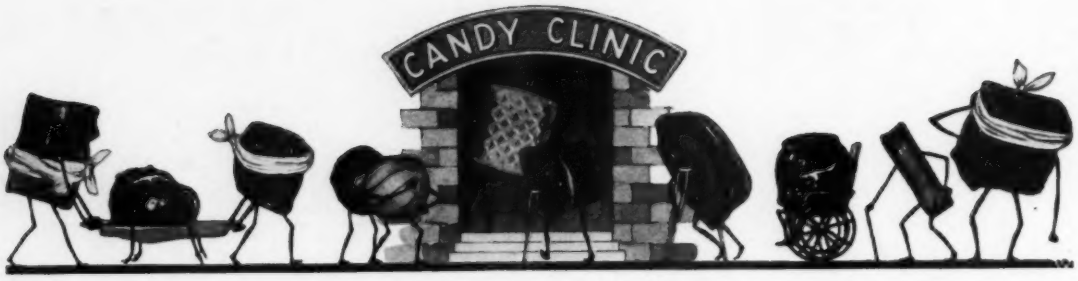
(Showing how Messrs. Briefer and Cohen mapped the "blind spots" in the pH scales of marshmallow gelatines of different origins.)

(At present it is a custom of the gelatine manufacturers to "average" gelatines of varying viscosities which give the same "Bloom" or jelly strength reading. The obvious purpose of this blending is to "bring up" gelatine of low viscosity which might otherwise be difficult to market, but this end is only accomplished by debasing the higher viscosities which Messrs. Briefer and Cohen find to be of maximum usefulness for marshmallow manufacture.—The Editor.)

Movie of the Briefer & Cohen Method for Determining "Jelly Consistency:"



—wherein the fall of a shot into the jelly is measured under certain arbitrary conditions. The distance which the shot traverses after striking the surface of the jelly is expressed in terms of millimeters fall.



The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Each month he picks up at random a number of samples of representative candies. This month it is cream goods; next month it will be pan work. Each sample represents a bona-fide purchase in the retail market, so that any one of these samples may be yours.

This series of frank criticisms on well-known, branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of the M. C.

CREAM GOODS

CHOCOLATE COCOANUT CREAM CAKE, 1¾ oz. 5c

(Purchased in New York City)

Appearance of Package: Very neat. Embossed foil wrapper, white band with red and black print.
Coating: Chocolate, sweet.
Color: Good.
Gloss: Good.
Taste: Good.
Center: Very good, Fondant soft and cocoanut had a good fresh taste.
Remarks: This is a very good bar at 5c.
Sample A—12

ASSORTED CHOCOLATE CREAMS, ½ lb. 45c.

(Purchased in New York City)

Appearance of Package: Very neat. Glassine wrap. White box with gold print, two gold seals used.
Appearance of Box on Opening: Very good. Pieces in place and none broken. Chocolate cups used.
Coating: Bittersweet chocolate.
Color: Good.
Gloss: Very good.
Taste: Good.
Centers:
Vanilla: Flavor and fondant very good.
Vanilla Pecan: Flavor and fondant very good.
Vanilla Cocoanut, Crescent Shape: Cocoanut tasted very good. Fondant good.
Vanilla Buttercream: Flavor and fondant excellent.
Vanilla Walnut: Flavor and fondant excellent.
Vanilla Brazil: Flavor and fondant excellent.
Remarks: This box of creams was exceptionally good, and the only fault found, is that the assortment is entirely too small. Suggest that a Raspberry, Maple and Chocolate cream be added. Also larger pieces of nuts used, as the nuts were cut in very small pieces.

WHIPPED CREAM BAR, 2½ oz. 5c.

(Purchased in New York City)

Appearance: Fair. Silver foil wrap with blue print.
Coating: Chocolate, Bittersweet.
Color: Too black.
Gloss: None, very gray.
Taste: Very cheap.
Center:
Taste: Hardly any flavor used. Tasted flat.
Fondant: Was anything but a whipped cream. Dry and starchy, as if a cheap home-made nougat cream were used.

THE CANDY CLINIC
[illegible] CORTLANDT STREET
NEW YORK CITY

℞

The use of "doctors" should not be abused

SUPERINTENDENT

Remarks: This is a very "crude" whipped cream, the only thing to recommend it being its size.
Sample H²—12

CRYSTALLIZED CREAM WAFERS, 1 lb. 49c

(Purchased in New York City)

Appearance of Box: Not very good. White box used, with gold and light green print. Box dirty from handling. Suggest this box be wrapped either in cellophane or glassine paper.
Liner: None.
Crystal: Excellent.
Flavors: Peppermint, Wintergreen and Coffee. Coffee flavor was good. Peppermint and Wintergreen very faint.
Fondant: Very good. Soft and smooth.
Remarks: All pieces were cupped, chocolate colored; very neat-looking layout. Had flavors been good, this would have been a fine box of cream wafers. In this type of candy, the flavors must be of the best and sufficient used to prevent the candies from tasting flat.
Sample H¹—12

PEPPERMINT AND WINTERGREEN CRYSTALLIZED CREAM WAFERS, 40c lb.; Bulk

(Purchased in New York City)

Appearance of Wafers: Fair. Almost all pieces were spotted. The Wintergreen (pink) had faded.
Crystal: Very good.
Flavor: Both flavors very fine.

Fondant: Dry. Had small hard pieces of sugar in both Peppermint and Wintergreen.
Remarks: More care should be taken when the fondant is heated. The flavors were very good, and had the fondant been made properly, this would have been an excellent cream wafer. These cream wafers are bought in 5 lbs. bulk and sold by the pound.

Sample K—12

Hard Candy (continued from September issue)

Sample PT—10

Made in New York City.
Purchased in Boston.
How sold: 1 lb. box Peanut Brittle—25c lb.
Appearance of package: Very good and well put up. Brown Kraft used. Extra heavy brown wax paper also used. Brittle in perfect condition.
Peanuts: Well roasted.
Brittle: Very good and well spun out.
Color: Good light brown.
Taste: Very good.

Sample WH—10

Made in Philadelphia.
Purchased in Boston.
How sold: 6¾ oz. jar Assorted Sticks—30c.
Appearance: Fair. Straight jar. Vacuum cap. Label fair; a little too large.
Gloss: Fair. Partly gone.
Dust and broken: A considerable amount of dust. About 20% broken.
Flavors: Raspberry, wintergreen and orange poor tasting. Except for peppermint and lime, balance of flavors could hardly be identified. Peppermint and lime were the only good ones.
Colors: Good.
Assortment: Good, if flavors were good.
Stripes: Very carelessly done.
Remarks: It is very important that all kinds of hard candy have plenty of flavor and that good flavors be used. I do not consider this jar of sticks to be up to standard, as the flavors were extremely poor, notwithstanding the quality reputation of its manufacturer. The spinning out and striping were carelessly done. This candy needs considerable checking up by the factory superintendent.

Sample PM'—10

Made in Chicago.
Purchased in Boston.
How sold: 4 oz. jar Twists—35c.
Appearance: Good. Straight jar used. Vacuum cap. Label neat.
Gloss: Very good.
Dust and broken: A little dust. About 25% broken.
Flavors: All very good.
Colors: All very good.
Assortment: Good.
Workmanship: Very good.
Remarks: This is as fine a jar of Twists as I have seen. That a few were broken could not be helped, as the Twists were spun out very thin.

Sample STC—10

Purchased in Boston.
How sold: 2½ oz. tin Assorted Fruit Tablets—10c.
Appearance: Very good. Square tin can used with cover. Printing and color very good.
Gloss: None. These tablets were powdered. Very good condition.
Dust or broken: None.
Flavors: Good, except grape, which tasted as if rancid flavor were used.
Colors: Good.
Assortment: Good.
Remarks: Suggest that grape be left out, as this flavor was not good. As a rule a grape flavor does not "stand up" when mixed with other flavors. Considering price and container, this is a very good package of tablets.

Sample X—10

Purchased in Boston.
How sold: Package Small Pops, 5 pieces—5c.
Appearance: Fair. Cellophane wrapped.
Gloss: None. Partly grained.
Flavors: Very poor. Could hardly be tasted.
Colors: Good, except violet.
Assortment: Good. Lemon, orange, lime, cherry and grape.
Remarks: Suggest that grape be left out. Suggest raspberry instead. Also suggest that "moisture-proof" cellophane be used, as all pieces were stuck to the cellophane.

Types of Fondant and Their Uses

BY ERIC LEHMANN
Practical Confectioner

WE will take straight Sugar Fondant first, as this is the base or starting point for all other fondants. This fondant is made either on a ball type of beater or in a warm beater with overhead coolers. If overhead coolers are used, a "doctor" such as Cream of Tartar or Salt is required. Other doctors may be employed, but these are about the most satisfactory for "everyday" work. In cooling a straight sugar syrup, it is not wise to cook more than 150 to 200 pounds at a time, and every care should be taken to pump it to the cooler as quickly as possible so that the syrup will not grain. For best results, cook the batch without any "doctor" and pour on the water-cooled surface of an open heater (of which there are three reliable makes now on the market).

For Bonbons not intended to be crystallized, the use of a straight sugar fondant is recommended. Cook to 242° F., add 8 ounces of fresh or frozen egg white (well beaten) immediately before starting to beat the fondant. Another good formula for this type of work is to add to every 80 pounds of sugar ½ ounce of salt and 1 ounce sheet gelatine (well soaked). Add the salt when batch comes to a boil and add the soaked gelatine just before turning the batch out on the beater of cooler.

The function of the gelatine is to prevent the sugar from forming into large crystals, a principle made use of in a commercial way in the preparation of a trade-marked product containing pectin and invert syrup. This formula has proved most satisfactory for all kinds of cream mint wafers cast in

rubber molds, starch, paper, or tins. Goods made with this fondant can also be crystallized, but would have to be permitted to dry out somewhat first. Properly remelted, it will not "spot" or crust, but will even stand up better than a corn syrup fondant.

Next in line are Old Dutch Creams, since only a comparatively small amount of corn syrup is introduced in the better qualities. Ten per cent of corn syrup is ordinarily sufficient for high-grade Old Dutch Creams. Dried albumen, frozen whites, and any number of cheaper substitutes are used, but a good invert sugar, on the order of Nulomoline, plus either Albumen or Egg White produces the best cream and gives least trouble. The writer has kept cream for three years, made from the following formula:

90 lbs. Sugar,
10 lbs. Corn Syrup,
Cooked to 240°.
8 oz. Frozen Egg Whites (well beaten),
2 oz. Invertase (added before the batch is beaten).

These centers were run out by a hand-roll machine. If a remelt is to be used, using this formula, care must be taken when remelted and the invertase added immediately before the batch is cast.

For Italian or Whipped Creams, use 1 pint of albumen or frozen eggs instead of 8 ozs. I do not advise using a "Bob Cream" for either Dutch or Italian Creams. If you want a good Italian or Dutch Cream, by all means use a remelt.

For Fruit Creams, use a 10% Corn Syrup fondant; if you are using enough fruit pulp in the fondant, you will not need any invert, although I would advise adding invertase to bring up the syrup density of the cream and prevent souring or "blowing."

Most important of all, we come to so-called Center Cream or Corn Syrup fondant. This fondant is used for so many different types of center that it would be impossible to mention them all. Some candymakers use 20% corn syrup and some prefer 25%, and even 30%. A 20% Corn Syrup Fondant is about as good a fondant as can be made for this class of center. Using more corn syrup produces a tougher fondant, and unless you are making real cheap goods there is little to be gained by further increasing the percentage of corn syrup. Corn Syrup Fondant is also used for all crystallized Cream wafers, French Bonbons, wafers, Menthe leaves, etc. After crystallizing, such a fondant will stand up almost indefinitely. Corn Syrup Fondant is also used for all "Bob" work.

A word with regard to so-called "Bob" Creams. For high-grade work "Bob" cream appears to be "going out" very fast. Some of the better houses have discontinued "Bob" cream altogether and are using a straight 20 or 25% Corn Syrup Fondant remelt. Using a remelt produces a far better center and one that will stand up longer. If your plant is geared up to turn out sufficient fondant so that you can use a remelt in place of a "Bob," I suggest you do it. You will notice that your goods come out better and the eating and keeping qualities of the centers will be greatly improved. For bars, or cheap creams, a "Bob" will answer, but for high-grade cream centers a remelt is the best.

Coming!

(M. C. Competitive Materials' Survey No. 3)

A Survey of Genuine Fruit Flavors Offered for Sale in the American Market

(Further announcements will be made as the work progresses)

Don'ts Which Discourage the Trouble Shooter

DON'T use a wet cloth to cover the fondant tanks. Use a wood or a metal cover. A wet cloth will cause your fondant to ferment.

DON'T use fresh water to sprinkle or "wet down" a batch. Boil the water first. Using fresh water will cause your batch to ferment.

DON'T allow fondant to stick to the sides of fondant tanks, as it will harden and cause small "lumps" in your centers.

DON'T wet the spade when removing fondant from tanks unless you use boiled water.

DON'T store fondant in a room in which the temperature is over 70° F.

LET your fondant set 24 hours before using.

USE A GOOD "STRONG" SUGAR for all classes of fondant. Your goods will whiten and have a smoother grain.

DON'T "fill up" your fondants indiscriminately with inverts, acids, etc. Decide what is best for your work and then stick to it. The fewer "doctors" you put into your batches the better the results are likely to be.

USE PLENTY OF WATER when cooking sugar for fondant.

HAVE PLENTY OF COLD WATER for your coolers if you want good, smooth creams.

USE A SUFFICIENT NUMBER OF MACHINES so your fondant doesn't have to be "Rushed".

CONCERNING THE BEATER

For the very finest creams an open beater is the best machine to use.

For center creams, etc., a worm or paddle beater is best for quantity production.

Dough beaters are excellent for "big production," but do not produce as fine a fondant as the worm or paddle beater.

Sweetest Day in the West

Sweetest Day in the West. Due largely to the efforts of M. E. Hill, Western field representative of the national advertising campaign, Candy Week and Sweetest Day were, for the first time on the Pacific Coast, observed with some concentrated and co-operative action of the trade. Hill had a tremendous amount of educational, contact and promotional work to do in the several important cities and trade centers of the West in order that the trade might be "sold" to the point of co-operating for the success of the week. The necessity for this work arose out of the fact that, while Candy Week in Middle Western and Eastern cities has for several years past been on a thoroughly organized basis, it has been in the West little more than an idea, with no co-operative effort to speak of behind it. However, as a result of Hill's missionary work, the West's first real Candy Week was, all things considered, an exceptionally good start. Without question, it laid a needed foundation of public and trade interest that will serve for more ambitious plans next year.

The program of the Denver Zone was perhaps the most ambitious of the lot. The original intention was to hold a Candy show in the Denver Civic Auditorium during the entire week, and climax it by a Sweetest Day ball. This proposal, however, was abandoned in favor of a plan in which the Denver Post joined forces with the candy men, and arranged distribution of 10 tons of confections, the latter item, of course, being supplied by various manufacturers. The newspaper distributed the candy to every orphan asylum, hospital, jail and old people's home in and about Denver. This stunt provided the Denver Post with ample material and background to get out what was practically a Candy and Candy Week Edition of the paper, giving the Denver and Colorado trade the largest play of editorial material ever obtained to date in this territory, or indeed, anywhere in the West.

While providing so well for all the folks who might not have been able to buy sweets during Candy Week, the Denver and Colorado trade took equally good care to see that all those who could buy candy had proper selling pressure put upon them. Denver retailers, as a whole, fell enthusiastically into step with the Candy Week and Sweetest Day idea, and both large and small stores made it a point to put on something special in the line of window displays, counter displays and so on. The result was that among the larger down town stores some very striking windows were developed, and practically every retailer in the city handling candy put up at least counter cards, mirror or window strips.

In the Salt Lake City, Utah, and Idaho Zone the manufacturers, jobbers, retailers, box manufacturers and sugar companies combined to promote a successful Candy Week. Newspaper space was used in Salt Lake City papers, and daily publications in various other communities of Utah and Idaho were also utilized. A liberal supply of truck signs, window and counter display material was obtained from national headquarters and freely distributed to all who would make use of it. Radio talks before and during the week were also features of the Utah-Idaho program.

Activity for the Northwestern sec-

The Sweets Line at New York Candy Show

This is not a bread line but a Sweets line. Children of the Salvation Army, Brooklyn Nursery, being loaded down with confections at the Candy Show at Grand Central Palace, N. Y. Miss Gloria Nathan, one of last year's Sweetest girls, is distributing.

Sweetening the Political Campaign

Candy packers preparing de luxe boxes of confectionery for presentation to Mrs. Coolidge, Mrs. Smith, and Mrs. Hoover, by the confectioners of New York, in observance of National Candy Week, October 7-13. Several hundred tons of candy will be given away by the confectioners of the country during this celebration.

tions of the Pacific slope centered in Seattle, although practically every manufacturer in the district put out special Candy Week and Sweetest Day gift packages, and made arrangements to push their sale by co-operating with jobbers and retailers to supply material for window and counter displays. In Seattle itself, practically complete, coverage was secured among retailers in the way of window and counter displays, window and mirror strips. A co-operative newspaper campaign ran the full week in Seattle dailies.

Los Angeles being so fortunate as to have available the pulchritude and support of the Hollywood film colony was able to put on Candy Week stunts that had no difficulty at all in capturing not only public attention but also the public appetite for sweets and its pocketbook. As is customary, that famous group of juveniles, known to every youngster in the land as Our Gang, played a stellar role in the programs. Various other film celebrities made public appearances in connection with Candy Week.

It was the aim of the committees in charge of the campaign to contact with every retail outlet, handling candy in Los Angeles and environs, and get them to make some sort of special display. This was a large order, and anyone who is familiar with Los Angeles and its near by communities will realize that it is nothing against the committees that they fell somewhat below a 100% record. But it is reported that, in view of all facts, they did remarkably well. The downtown stores responded very readily to the appeals and put on a number of fine window displays. Newspaper space in all the Los Angeles daily publications, generous in measurements and running throughout the six days was a third strong point in the concentrated selling effort.

In San Francisco Candy Week, as an organized movement, was practically non-existent, due to the fact of the late date (September 14th) at which the first meeting was called to discuss it. But through individual initiative on the part of the larger and more progressive houses in the city Candy Week and Sweetest Day were, at least, firmly registered on the minds of a fairly large part of the city's population.

In these activities the Alberta Candy Company took the lead. Among its retail outlets in the several cities located on the shores of San Francisco Bay (Oakland, Alameda, Berkeley, San Mateo, Burlingame, San Leandro, Hayward, etc.) are two or three of the largest and finest chain systems in the grocery and drug lines. The cooperation of these distributors and that of numerous independently owned shops was secured. The company supplied not only display material of all kinds, but also the services of a group of expert window display men. As a result the Alberta Candy Company was directly responsible for over 400 excellent displays going into the better class of shops throughout the San Francisco Bay region.

For some weeks past this same concern has been broadcasting eight times daily from three California stations, KJBS, San Francisco, KLX, Oakland and KFBW, Warner Bros., Los Angeles. Before Candy Week the broadcasting announced its coming. During Candy Week the purpose of the event was stressed and Sweetest Day emphasized.

For the week immediately following Candy Week (September 13th to 20th) the Alberta Company had arranged for a large display booth in the main aisle of The Emporium, San Francisco's largest department store. The Sweetest Day and Candy Week idea will be carried over as much as possible in this exhibit, and sample bags of candy will be distributed free to the public. An important feature of the booth will be the fact that there will be kept on hand a supply of various booklets and literature as put out by the National Association, such as **The Story of Candy.** These will be freely distributed to the public so that it may be informed as to the food value of confections and their place in the daily diet.

The Stone Candy Company, San Francisco, likewise expended considerable independent effort in behalf of Candy Week. While its retailers in outlying neighborhoods were not wholly neglected, the Stone Company concentrated its displays in the larger downtown stores of San Francisco and Oakland. Displays put on in Capwell's Department Store, Oakland; The Varsity Shop, Berkeley, and the two Golden Pheasant Shops of San Francisco were original, striking and productive of much favorable public interest and comment.

* * *

The Quality Candy Company, headed by Peter Balzer and E. Otterstead, new comers among the San Francisco candy manufacturers, will put its plant into operation about October 1st. The factory is located at 1553 Folsom Street and is completely and modernly equipped for the manufacture of marshmallows, bulk and package chocolates, some bar goods and a general line of staple confections. Balzer is in charge of sales for the new enterprise. Otterstead, who is an experienced candy maker, is in charge of production.

* * *

Percy C. Kennedy has severed his relations with the J. R. Kennedy Company, 29 South Front Street, Philadelphia, and affiliated himself with the Hoven Mercantile Company, Mauch Chunck, Pa. Besides opening bakery and confectionery departments in the Hoovens company's various stores throughout the Pennsylvania coal regions, Mr. Kennedy will supervise the manufacture of baked goods and candy in their own plant.

The New Series of N. C. A. Advertisements

Excerpts from Letter from
George H. Williamson, Chairman
Advertising and Educational Committee

AT THE convention last June you probably heard and saw the presentation of the proposed new advertising campaign, rough samples of which were thrown on the screen.

From that moment you realized that the advertising of the National Confectioners' Association had at last hit its stride and was due for a renaissance—in the new theme, "Candy is good for you."

That the preliminary presentation amounted to a promise of a real campaign, with a perfectly definite objective—meeting face to face all the prejudices

THE SATURDAY EVENING POST

Do you eat enough candy?

See what the modern authorities say about candy in the diet — why and how you should eat it

How candy fills important bodily needs

How to use candy as a food

A hint to women (and men, too) who want to be thinner

A book for you

that have existed against candy and answering them with a positive and thoroughly substantiated story of the goodness of candy as a food.

The time has come to make good on that promise. Here we lay before you the finished proofs of four advertisements in this new campaign which starts in the *Saturday Evening Post* on October 27th.

Further, this new campaign is designed to sell candy 365 days a year, not merely for holidays and special occasions. Holidays are taken account of because they form a background for cooperative and individual effort on the part of retailers, but the central theme of the campaign is, "Eat candy, any good candy, regularly, because it's good for you."

If you, in your advertising and merchandising activities, will take account of this advertising plan and join the association in telling the public that "Candy is good for you," the purpose of this campaign—to build up an educational background—will be accomplished in a much shorter time.

Flavors
for
Cream Goods
and
Nougats

NO alibis necessary for Semco Products, they are "the goods." Flavors by SEMRAD represent a conscientious adherence to the highest standard of quality and purity.

Aromas True Fruit
Butter Flavor Imitation No. 1928
Coccus Flavor
Coffee Paste Solubles
Flower Flavors
Fruitine Emulsions
Grenadine Flavor
Honey Flavor
Maple Flavor
Pistachio Flavor
Roman Punch
Terpeneless Orange, Lemon and Limes
Vanilla Extract True
Vanilla Compounds
Walnut Black
Culinary Bouquet Flavors

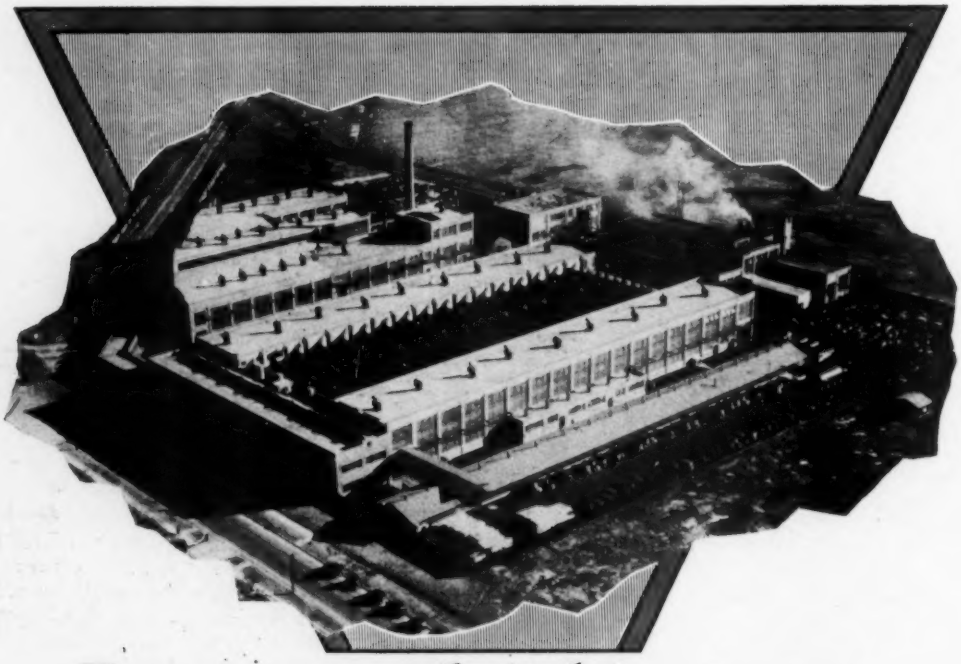
These are a few Cream Center and Nougat Flavors we suggest. We are in a position to make any flavor you might have in mind. We will create an individual flavor for your exclusive use.

Write us so we can send you samples and price list

Also specially prepared
"HARD GOODS FLAVORS"

SEMRAD CHEMICAL CO.
220-224 W. Huron St. CHICAGO

Now All Candy Can Profi



Progress *and* Achievement

This new plant at Saginaw, Michigan, is only one of the factories where B-P food machinery is designed and built, as our Associated Companies have factories in England, France, Belgium and Germany.

Standing out in bold relief among Baker Perkins' accomplishments is a solid background of almost unlimited resources and sound manufacturing policies. With a successful past, the assurance of a permanent future and the manufacture of equipment to meet individual requirements, Baker Perkins guarantees the Buyer's satisfaction.

Step-by-step Baker Perkins has developed refinements and pioneered advancements in candy machinery. Year-by-year the B-P line has been extended to meet the constantly changing needs of progressive chocolate and candy makers.

With a history of enviable engineering development, it is naturally credible that Baker Perkins machines have been favored by the world's most successful confectioners, which is a constant inspiration for the attainment of even greater *progress* and *achievement*.

Baker Perkins Chocolat